

REMARKS/ARGUMENTS

The office action dated September 10, 2003, has been carefully reviewed and these remarks are responsive thereto. Reconsideration and allowance of this application are respectfully requested.

Claims 1-51 remain in this application.

Rejections Under 35 U.S.C. § 103

Claims 1-51 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mansfield *et al.* (U.S. Pat. No. 6,477,382) in view of Salkintzis *et al.* entitled, "An In-Band Power-Saving Protocol for Mobile Data Networks" (IEEE, September 1998). Applicant respectfully submits that Mansfield and Salkintzis, either alone or in combination, fail to establish *prima facie* obviousness of claims 1-51.

Claim 1 is directed to a time-slicing digital broadcasting transmitter system comprising: a buffer that receives content from an information service provider; an encapsulator that receives the buffered content from the buffer and that forms at least one packet header for a current packet of a current burst of packets, wherein the current burst of packets contains a first portion of the buffered content, wherein the at least one packet header contains time-slice information that includes a time-slice parameter specifying a relationship between the current packet of the current burst of packets and a subsequent burst of packets that contains a second portion of the buffered content; and a digital broadcast transmitter that transmits the current burst of packets and the subsequent burst of packets.

Mansfield discloses a system in which, before data messages are transmitted to a mobile unit, the mobile unit must respond to a paging message to let a transmitting base station know that the mobile unit is ready to receive data messages. Mansfield discloses a flexible paging protocol in which a base station transmits a paging packet message over a paging broadcast channel, which is separate from the logical channel over which system data or content, such as cellular phone calls, is broadcast. (See Abstract; col. 1, line 66, through col. 2, line 12 "Initial communication between a user station and a base station can be established ... when the base station attempts to complete a call to the user station (for example, where the user station is

paged). In many conventional mobile communication systems, a dedicated control channel is used to assist mobile stations in establishing communication. According to this technique, the mobile station first communicates over the control channel when establishing communication. The base station then assigns to the mobile station a "permanent" communication channel for exchanging bearer traffic messages for the duration of the call"; and col. 2, lines 42-47 "If the handset receives a paging message ..., it ... responds to the paging message according to the system protocol in an attempt to receive the incoming call.").

The paging packet message contains a set of paging messages and a "next page pointer," which specifies, as a number of frames of transmitted packets, when the next set of paging packet messages will be transmitted. (See Abstract, and col. 12, line 9, through col. 14, line 30 "In the example shown in FIG. 9, a paging channel is defined on a fixed time slot 903, such as the fourth time slot 905 of downlink time frame 901. During the fourth time slot 905, the base station 804 transmits a paging packet message (such as paging packet message 601) to mobile end systems 805 within listening distance. ... The example of FIG. 9 also illustrates how the next page pointer (NPP) 603 of the paging packet message 601 is preferably employed. The next page pointer 603 points to (i.e., identifies) the next time frame 911 in which a paging message will be sent by the base station 804. Time frame 911 is thus n time frames after the first time frame 901, where n is the encoded value represented by the next page pointer 603.").

Like Mansfield, Salkintzis discloses a system in which, before data messages are transmitted to a mobile unit, the mobile unit must respond to a paging message to let the transmitting base station know that the mobile unit is ready to receive data messages. Salkintzis discloses that a base station performs continuous paging of mobile units until a mobile unit sends a short receiver-ready "acknowledgement" notification message. In this way, the base station transmitter learns of the mobile unit's availability to receive data messages. (See Salkintzis, p. 1196-97). After receiving such a receiver-ready "acknowledgement" message, the base station sends one or more data messages to the mobile unit.

Accordingly, Mansfield and Salkintzis, either alone or in combination, fail to teach or suggest a time-slicing digital broadcasting transmitter system in which an encapsulator forms at least one packet header for a current packet of a current burst of packets, wherein the current

burst of packets contains a first portion of the buffered content, wherein the at least one packet header contains time-slice information that includes a time-slice parameter specifying a relationship between the current packet of the current burst of packets and a subsequent burst of packets that contains a second portion of the buffered content. In sharp contrast, Mansfield and Salkintzis disclose systems in which paging-message acknowledgements must be sent from a mobile unit to a transmitting base station before data messages will be sent from the base station to the mobile unit. Accordingly, Mansfield and Salkintzis, either alone or in combination, do not teach or suggest transmission of a packet containing buffered content and time-slice information, as recited in claim 1.

Further, Mansfield and Salkintzis, either alone or in combination, do not teach or suggest transmitting time-slice information that specifies, in a way that is independent of a number of data packet-transmission intervals, an amount of time that elapses between transmission of a current packet and transmission of a first-transmitted packet of a subsequent burst of packets, as recited in claim 2. Instead, as discussed above, Mansfield's disclosure is directed to specifying, in terms of a number of transmission-packet intervals, when a next paging message will be sent. And Salkintzis does not transmit time-slice information that specifies an amount of time that elapses between transmission of a current packet and transmission of a first-transmitted packet of a subsequent burst of packets. Therefore, Salkintzis also does not transmit time-slice information that specifies such an amount of time in a way that is independent of a number of data packet-transmission intervals.

Mansfield and Salkintzis, either alone or in combination, do not teach or suggest placing the time-slice information into lower layer protocol packet header bits, as recited in claim 9. Instead, the next page pointer disclosed by Mansfield, is in a payload field of the paging message protocol. (See, col. 11, lines 53-58 "FIG. 6 is a diagram showing details of a paging packet message format in accordance with a preferred embodiment. As shown in FIG. 6, a paging packet message 601 comprises a plurality of individual paging message portions 602a, . . . , 602n and a next page pointer (NPP) 603."). And Salkintzis does not teach or suggest sending time-slice information. Therefore, Salkintzis does not teach or suggest placing time-slice information into lower layer protocol packet header bits.

For at least the foregoing reasons, applicant respectfully submits that Mansfield and Salkintzis, either alone or in combination, fail to establish prima facie obviousness of claims 1, 2, and 9. Claims 14, 24, 30, and 38; 20 and 39; and 21, 27, 35, and 40 contain analogous limitations and are, therefore, also allowable for at least reasons similar to those discussed above in connection with claims 1, 2, and 9. The remaining claims are proper dependent claims and, therefore, are also allowable for at least similar reasons.

CONCLUSION

It is believed that no fee is required for this submission. If any fees are required or if an overpayment is made, the Commissioner is authorized to debit or credit our Deposit Account No. 19-0733, accordingly.

All rejections having been addressed, applicant respectfully submits that this application is in condition for allowance, and respectfully requests reconsideration of the application and prompt issuance of a Notice of Allowance.

Respectfully submitted,

BANNER & WITCOFF, LTD.

Dated: December 10, 2003

By:

 43,805

William J. Klein

Registration No. 43,719

Banner & Witcoff, Ltd.
10 S. Wacker Drive
Chicago, IL 60606
Tel: (312) 463-5000
Fax: (312) 463-5001